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Inventory and Monitoring of Bald Eagles and Other Raptorial Birds of the Snake River, Idaho

1996-1997 Progress Report

prepared by
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Executive Summary

The Snake River Bald Eagle and Raptor Project, a five-year effort, was initiated in 1994 with two primary objectives: 1) to monitor bald eagle productivity in Southeast Idaho, and 2) to develop a monitoring program for raptorial birds in the Snake River study area. The South Fork Snake River study area in Southeast Idaho, including the lower Henry's Fork, is recognized for its highly productive bald eagle breeding pairs and diversity of raptors. Herein, we report progress for the 1996 and 1997 field seasons.

In 1996, there were 45 known bald eagle breeding areas within the Southeast Idaho portion of the Greater Yellowstone Ecosystem. Three new breeding areas were located in 1996: Clark's Hill (18-IS-25) on the South Fork, Ririe Reservoir (18-IS-26), and Annis Slough (18-IS-27) at the Confluence of the South Fork and Henry's Fork Snake River. In total, 43 of 45 nests were occupied, 39 were active, and 27 were successful, with 42 advanced young produced. Outcome was unknown at 1 site. The average ratio of advanced young/occupied nest with known outcome was 1.00.

In 1997, we report results of activity and productivity surveys at each of 47 known bald eagle breeding areas. The two additional breeding areas arose from reevaluation of nesting behavior at nest sites on Palisades Reservoir. In 1997, 42 of 45 breeding areas where outcome was known were occupied, 37 areas were active, 27 areas were successful, and 46 advanced young were produced. Outcome was unkown at 2 sites. The average ratio of advanced young/occupied nest with known outcome was 1.10.

In 1994-95, we analyzed raptor macro-habitat selectivity through presence/absence surveys. In 1996-97, we further clarified raptor habitat selection through more specific description of micro-habitat features in occupied areas.

Even though young bald eagle pairs are occupying new breeding areas, we are witnessing the gradual loss of historically productive bald eagle nesting areas, primarily on private lands that are now being developed. This is most apparent in the South Fork reach from Palisades Dam to Conant Valley, and highlights the importance of protected habitats. We have also documented the high value of riparian cottonwood forests and nearby Douglas fir forests for many other nesting birds of prey.

Introduction

This progress report documents the third and fourth years of a five-year project to monitor raptorial birds within the Snake River ecosystem of southeastern Idaho. The project goal is to develop monitoring tools that can be applied to conservation at several levels: nesting bald eagle productivity, raptorial birds as a guild or trophic level, and biological communities generally (see discussion in Whitfield et al. 1995).

Objectives

I. Determine bald eagle productivity and document habitat observations for bald eagle breeding areas within the Idaho portion of the Greater Yellowstone Ecosystem. Specific 1996-1997 tasks within this objective are:
a. Complete bald eagle nesting area surveys for each breeding area.
b. Monitor and assess the effects of human disturbance to each breeding area as noted during activity and productivity surveys.
c. In 1996, provide preliminary identification of key habitat use areas for the following bald eagle breeding areas: Kerr Canyon (18-IC-01) and Hale Canyon (18-IC-10).
d. In 1997, provide preliminary identification of key habitat use areas for the following bald eagle breeding areas: Five Ways (18-IS-24) and Clark Hill (18-IS-25).

II. An overall goal of this five-year project is to develop an inventory and monitoring program for all raptorial birds of the Snake River study area (Species listed in Table 1). In 1996-97, we completed the following objectives:
a. Refine descriptions of nesting habitats within identified raptor nesting areas through examination of micro-habitat features within identified nesting areas.
b. Provide a synthesis of literature on recreation effects upon raptor habitat use.

Study Area

The 119 mile reach of Snake River corridor identified in the BLM and Forest Service 1991 Snake River Activity/Operations Plan is the core of the study area (figure 1). This area includes the South Fork Snake River from Palisades Dam beyond the confluence to Market Lake Canal, and Henry's Fork from St. Anthony to its confluence with the mainstem Snake. The study area is expanded to include upland habitats within 1 mile on each side of the river. In preliminary studies, the investigators located breeding raptors which nest within this expanded area and rely in part upon the riparian bottom for foraging habitat.

The upper section of the South Fork below Palisades Dam flows through a mountain valley, Swan Valley, Idaho. It then flows into a rugged, deeply incised canyon approximately 26 miles in length. The lower South Fork and the Henry's Fork below St. Anthony meander across broad, braided flood plains. Most of the South Fork in these lower reaches is contained by a dike system.

The South Fork Snake River is bordered by cottonwood gallery forests recognized as among the largest and most intact in the western United States. Beyond the floodplain, landscapes on each side of the river include a rich diversity of vegetative cover and topographic relief: conifer and aspen covered foothills, park-like pasturelands and cultivated crop lands; precipitous canyon walls; sage, mountain mahogany, and juniper covered slopes; and steep, rocky mountains. The lower reaches feature biologically rich sloughs and wetlands. The South Fork and lower reach of the Henry's Fork are recognized as a primary biological asset of the Greater Yellowstone Ecosystem , primarily because of the diversity of species supported within the cottonwood forests.

Bald eagles are monitored within a larger region, the Idaho portion of the Greater Yellowstone Ecosystem (GYE). This area includes Southeast Idaho west to Interstate 15 from the Montana border to Idaho Falls, and the Snake River watershed south to the Wyoming border at the upper end of Palisades Reservoir. This larger region includes the Snake River study area plus the upper Henry's Fork in Island Park, outlying lakes like Sheridan Reservoir, and Henry's Fork tributaries such as the Falls and Teton River watersheds.

Table 1. Raptor species codes for raptorial birds to be inventoried and monitored in the Snake River study area.

Common Name	Scientific Name	Abbreviation	Number	Occurrence in Study Area
Bald Eagle	Haliaeetus leucocephalus	Ha. le.	1	Known, this study
Golden Eagle	Aquila chrysaetos	Aq. ch.	2	Known, this study
Osprey,	Pandion haliaetus	Pa. ha.	3	Known, this study
Northern Goshawk	Accipiter gentilis	Ac. ge.	4	Known, this study
Cooper's Hawk	Accipiter cooperii	Ac. co.	5	Known, this study
Sharp-shinned Hawk	Accipiter striatus	Ac. st.	6	Known, this study
Red-tailed Hawk	Buteo jamaicensis	Bu. ja.	7	Known, this study
Swainson's Hawk	Buteo swainsoni	Bu. sw.	8	Known, this study
Feruginous Hawk	Buteo regalis	Bu. re.	9	Potential
Northern Harrier	Circus cyaneus	Ci. cy.	10	Known, this study
Peregrine Falcon	Falco peregrinus	Fa. pe.	11	Known, this study
Prairie Falcon	Falco mexicanus	Fa. me.	12	Known, this study
Merlin	Falco columbarius	Fa. co.	13	Potential
American Kestrel	Falco sparverius	Fa. sp.	14	Known, this study
Turkey Vulture	Cathartes aura	Ca. au.	15	Known, this study
N. Saw-Whet Owl	Aegolius acadicus	Ae. ac.	16	Known, this study
Northern Pigmy Owl	Glaucidium gnoma	Gl. gn.	17	Known, reports
Western Screech Owl	Otus kennicottii	Ot. as.	18	Known, reports
Flammulated Owl	Otus flammeolus	Ot. fl.	19	Known, this study
Short-eared Owl	Asio flammeus	As. fl.	20	Suspected
Long-eared Owl	Asio otus	As. ot.	21	Known, this study
Great Horned Owl	Bubo virginianus	Bu. vi.	22	Known, this study
Great Gray Owl	Strix nebulosa	St. ne.	23	Potential
Barred Owl	Strix varia	St. va.	24	Potential
Boreal Owl	Aegolius funereus	Ae. fu.	25	Potential
Burrowing Owl	Athene cunicularia	At. cu.	26	Potential

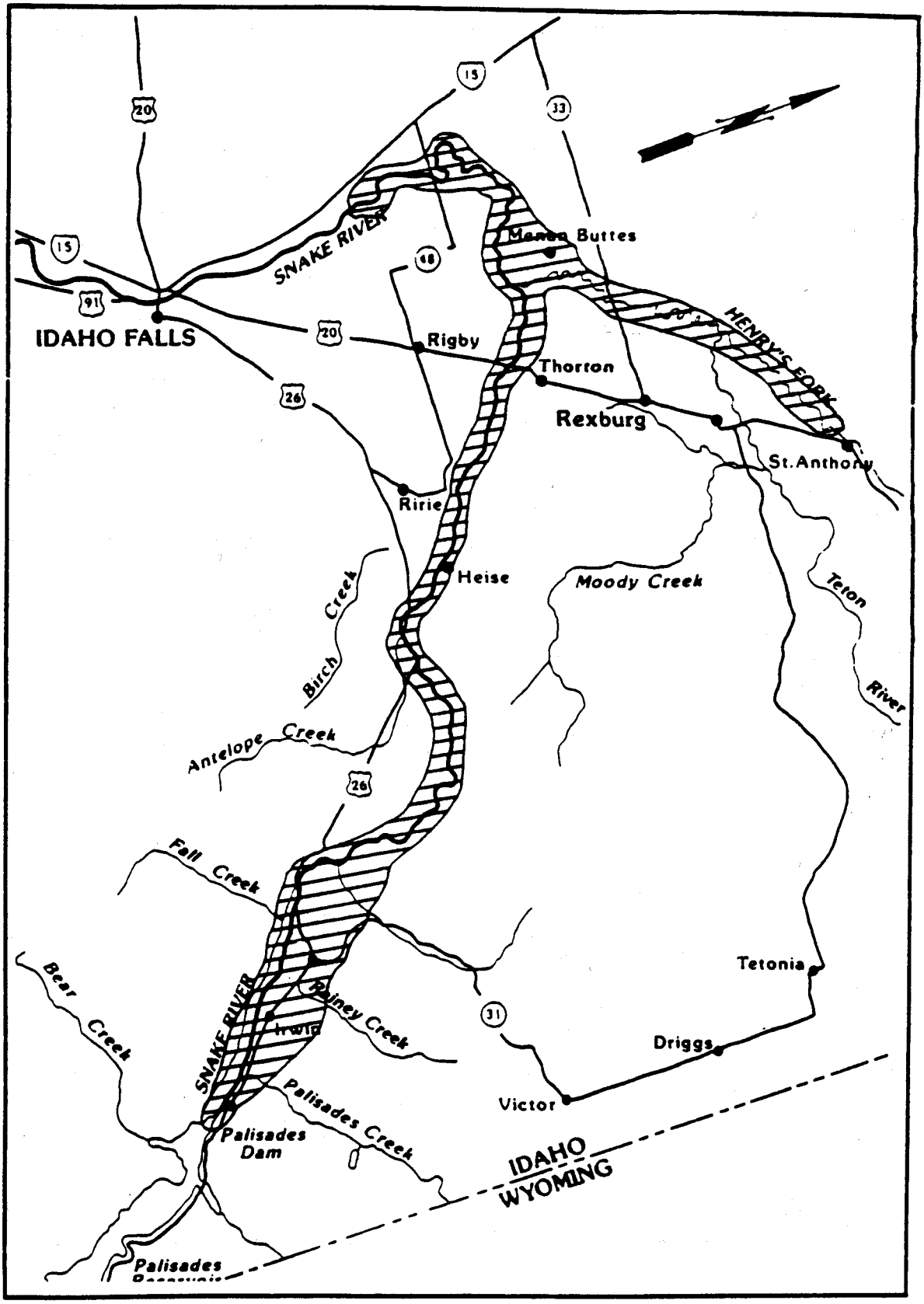

Figure 1. Snake River study area. This map is taken from the Snake River Activity/Operations Plan (USDI BLM and USDA Forest Service 1991). Scale 1 : 500,000